



NORTH DAKOTA OIL AND NATURAL GAS WORKFORCE NEEDS AND SKILLS STUDY

DECEMBER 2010

North Dakota

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**North Dakota's Oil and Natural Gas Workforce
An Occupational Needs Assessment Through 2015
Executive Summary
January 4, 2011**

Introduction

A study of oil and gas industry workforce needs was first conducted in 2005, in recognition of the increasing demand for oil and gas industry workers. Due to the industry's rapid growth in western North Dakota, the North Dakota Department of Commerce initiated a study to update these numbers and project the workforce demand to 2015. The study asked existing oil and gas companies in western North Dakota to project their workforce needs. Response data was expanded to represent the 17-county oil and gas region of the state. This document summarizes expanded results from the survey conducted by Electronic Media of Dickinson.

Summary of Findings: Workforce Demand

- Projections from existing oil and gas companies in western North Dakota show a 7.75 percent increase in expected employment levels for the year 2011, moving from 19,070 workers in 2010 to 20,548 in 2011. Expected employment numbers level off for 2011 - 2015, hovering at an average of 20,425 expected workers.
- Responses indicate a significant need for replacement workers, or those workers needed each year to maintain the employer-projected employment levels.
- Replacement numbers jump by 34 percent between 2010 and 2011, from 3,592 to 4,811. Replacement workers also level off across 2011 - 2015, with an average of 4,340 expected replacement workers for the industries and occupations within the study.
- Data include primary and secondary occupations, or those involved in extraction and related supports. Data do not reflect induced jobs, or those jobs created to support the influx of business, people and income into an area.
- This information does not reflect the jobs created by related infrastructure growth (i.e. rail facilities) or emerging jobs such as process plant operator positions created by the building of additional plants.
- Data includes projections from oil and gas companies existing in North Dakota. The study does not include projections of potential growth from companies new to the state.
- Data from this study compare reasonably with estimates made by the North Dakota Division of Mineral Services, based on rig count, projected rigs and jobs connected with rigs.

Summary of Findings: Top Occupations

Page 3 of this document contains a listing of the top 25 demand occupations and projected employment levels by Standard Occupational Classification (SOC) code.

- The top four occupations remain somewhere in the top four across all study years. They are: 47-5012 Rotary Drill Operators, Oil and Gas; 47-5013 Service Unit Operators, Oil, Gas and Mining; 49-9043 Maintenance Workers, Machinery; and 53-7072 Pump Operators, Except Well Head Pumpers. These top four occupations:
 - Constitute nearly one-half of the total expected jobs each year.
 - Require technical skills for controlling operations, equipment or systems, equipment repair and maintenance, equipment operation.
 - Require some college or high school diploma and technical skills.
- The top 10 occupations cover the bulk of the workers needed, at over 70 percent of the top 25 occupations for each of the study years.
- Truck Driver (SOC 53-3032) demand jumped from 10th place to 7th between 2010 – 2011 due to an increase of 134 jobs or 30 percent. Truck driver demand remains in the top seven thereafter, with an average of 727 jobs for 2012 - 2015 in the 17 oil and gas producing counties alone.
- Demand for engineers, including petroleum, production, facilities, drilling and district engineers (SOC 17-2171) jumped from 322 jobs to 498 jobs between 2010 and 2011, moving it from 14th place to 11th. The Petroleum Engineers occupation moves into tenth place in 2012 at 497 jobs and remains steady thereafter.

Ongoing demand is reflected in the employment listings in jobsnd.com, North Dakota's most comprehensive job website. For example, the December 27, 2010 summary of oilfield job listings on jobsnd.com shows 1,127 related job openings across western North Dakota.

The study, in conjunction with workforce information from resources such as Job Service North Dakota's Labor Market Information and North Dakota Department of Mineral Resources oil rig projections, provides workforce intelligence for career explorers, career developers and advisors, educators, policy makers and workforce professionals who can all benefit from understanding high wage, high demand job opportunities and skill needs within oil and natural gas industries.

Methodology

A sample of 77 employers representing industries involved in oil and natural gas extraction and support activities was selected for the survey. A response rate of 52 percent (40 responses) provided data that was expanded mathematically to represent the full need across North Dakota's 17 oil and gas counties. Employers were asked to project their expected and replacement workforce needs for years 2010 - 2015. Expected workforce is defined as the total number of people to be working in the particular year and worker replacement is defined as the number of individuals needed to replace people leaving for retirements, normal turnover, etc to maintain the expected workforce level. 2010 results serve as the base year for understanding growth and replacement needs across industries.